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Memory Elvin-Lewis, Ph.D., professor of biomedicine, and Walter H. Lewis, Ph.D., professor of biology, inspect an Amazonian iris in the University's Plant Growth Facility as a National Geographic cameraman films them for the April 9 National Geographic "EXPLORER" feature "Secrets of the Rain Forest." National Geographic sent a film crew along with the Lewises on their most recent expedition to Peru, where the scientists observed the culture of the Jivaro Indians and searched for plants the Indians use to treat a vast assortment of maladies. The Jivaro use the iris for a number of ailments, including intestinal disorders.

'Secrets of the Rain Forest'

National Geographic show explores scientists' Peruvian trip

Two Washington University scientists researching the medical botany and culture of Peruvian Indians are the focus of a National Geographic "EXPLORER" feature, "The Secrets of the Rain Forest," that will air at 8 p.m. (CST) April 9 on WTBS, a cable TV station.

A December 1988 Peruvian expedition by Walter H. Lewis, Ph.D., professor of biology, and his wife, Memory Elvin-Lewis, Ph.D., professor of biomedicine at the School of Dental Medicine, is the lead story of the two-hour program that also will be shown at 11 p.m. (CST) April 10 and at 8 a.m. (CST) April 15.

National Geographic "EXPLORER" is a weekly magazine-format series that features a mix of adventure, science, natural history and human-interest films.

During the 1980s, the Lewises made several journeys to the tropical forests of Peru to collect plant specimens and observe the cultural traits of the Jivaro Indians. The Jivaro tribe comprises some 6,000 Indians living in the lowlands of the Upper Amazon Basin. While most Jivaro tribes are considered "primitive" in varying degrees — thatch huts, blowguns, and medicine brujos or "witch doctors" are very much the norm — the Indians are the custodians of a medical treasure-trove.

"The Jivaro use hundreds of plants for a whole variety of medical purposes," says Walter Lewis, an internationally renowned botanist who, with his equally renowned spouse, is co-author of *Medical Botany*, a popular reference and textbook. "They have a plant remedy for nearly every human malady. What has impressed us is how effective these plants are for them. We are interested in preserving and studying the plants and determining their potential as antiviral and antibacterial drugs as well as for other uses."

For two weeks last December, the National Geographic Society sent a

three-person film crew to Peru along with the Lewises and their linguist, Daniel Fast, who lives among the Jivaro. The explorers were transported over dense forests by helicopters provided by the Peruvian Air Force; they rode motor boats on the rivers and streams that are the feeder system of the Amazon. The production crew shot 20,000 feet of film in Peru.

In February the crew visited Washington University, where they filmed the Lewises at several campus locations, including the biology department's new Plant Growth Facility.

The 25-minute story on WTBS will feature stunning scenes of the tropics as well as portraits of the Jivaro and their culture and the Lewises' treks in the forest as they search for valuable plants.

While the scientists have collected dozens of plant samples from their various visits, one kind of plant that continually intrigues the Lewises are weeds of the sedge family. For American farmers and homeowners, species

of sedge such as broomsedge and nutsedge are common problem weeds. But for the Jivaro, the plants are veritable living, self-contained pharmacies.

The Jivaro use several species as contraceptives — they cause sterility in women for varying lengths of time. The upper part of the plant is used to control uterine contractions during birth; after birth, it is used to inhibit bleeding. In all cases, the medicine is taken as a liquid infusion.

"We have found most things that the Jivaro say work consistently do work," says Elvin-Lewis, who has traveled much of the world researching different cultural uses of plants for dental and other medical purposes. "What they do is knowingly select cultivars, or varieties, from species whose active ingredients work for specific ailments."

The Lewises also are exploring the potential for an antiviral drug against hepatitis B that would be derived from a species of palm tree common in that area.

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Philosophies of M. L. King Jr., Malcolm X highlight symposium

A forum on progress and unity for African-Americans and a lecture by African-American psychologist Na'im Akbar are among the events scheduled for the University's 19th annual Martin Luther King Jr. Symposium, to be held on campus April 3-7. All events are free and open to the public.

The Martin Luther King Jr. Symposium, traditionally held to commemorate the anniversary of King's assassination on April 4, 1968, focuses on the political, economic and cultural concerns of African-American students at Washington. This year's symposium highlights the philosophies of King and Malcolm X and explores how their beliefs can expedite African-American progress. Malcolm X, a major 20th-

century spokesperson for African-American nationalism, was killed on Feb. 21, 1965.

On Monday, April 3, a student rally to kick off the symposium will be held at 11 a.m. in Bowles Plaza. Speaking briefly at the rally will be representatives from the Association of Black Students (ABS), including Michael Carter, ABS president, and Michael Johnson, an ABS member.

Also on April 3, from 11 a.m. to 1 p.m. on the lower level of Mallinckrodt Center, an art show chronicling the life of Malcolm X will be on display. The show will feature various pictures of Malcolm X published in the media as well as original drawings and sketches

Continued on p. 3

University libraries dean appointed; begins post Aug. 1

Shirley K. Baker, associate director for public services for the Massachusetts Institute of Technology (MIT) Libraries in Cambridge, has been appointed dean of university libraries at Washington University effective Aug. 1, according to Chancellor William H. Danforth.

Danforth said Burton Wheeler, Ph.D., who has served as interim head of university libraries at Washington, will continue in his role as professor of English and religious studies. Wheeler also chairs the University's Committee on Religious Studies.

"I am delighted that Shirley K. Baker is joining our institution," said Danforth. "Her extensive experience and credentials will be valuable in our continuing efforts to build and strengthen our library program. I should like to express appreciation to Professor

Wheeler and to Professor Bernard Reams for ably filling the deanship during the interim period."

Reams, J.D., Ph.D., professor of law and director of the law library at Washington, served as acting dean of the libraries from March 1987 through October 1988.

Baker has been associate director for public services at MIT's libraries since 1985 and assistant director from 1982-85. She also has worked as a librarian at Johns Hopkins (1976-82) and Northwestern (1974-76) universities.

"I'm delighted to come to Washington University as dean of university libraries," says Baker. "I expect this to be a challenging and exciting position. I am particularly pleased with the excellence of the University and the support for libraries among the faculty and administration."

As associate director for public services at MIT's libraries, she oversees five libraries, their branches and the libraries' Computerized Literature Search Service, which consists of more than 2 million volumes, 37 librarians, 75 support staff and 22 student assistants. Baker is a member of the Libraries' Steering Committee, which plans, budgets and formulates policy for the library system. She supervised the selection of an automated library system and directed its execution as chair of the Implementation Coordinating Group.

Baker has been involved in defining the appropriate role for libraries in undergraduate education and has been working on new measures of effectiveness for library services.

The author of several papers on library services and technology, Baker is active in national and local professional associations.

Baker has a bachelor's degree in economics from Muhlenberg College in Allentown, Penn., and two master's degrees (library science, South Asian languages and civilizations) from the University of Chicago.

At the beginning of the current academic year, the Washington University Libraries' combined holdings comprised 2,169,707 books and bound periodicals; 18,372 current serial subscriptions; 1,683,369 microform units; 8,122,535 manuscript items; 28,966 recordings, discs and tapes; 4,119 films, filmstrips and slides; 88,113 maps; and hundreds of electronic databases.



Shirley K. Baker



Eggs-traordinary event: Some 30 engineering students are diligently at work creating egg-contraptions for the annual Egg Drop Contest on campus. The contest will begin at 1 p.m. Sunday, April 2, in front of Shepley dorm. A picnic in the Swamp will follow. As part of the contest, students design a container no larger than 1-cubic-foot that they hope can protect a raw egg during successive falls from heights of up to 11 stories. The egg drop competition and the picnic, which are both free and open to the public, are part of Engineers' Weekend, March 30-April 2. Other activities taking place during the weekend include the Engineers' Talent Show, a volleyball tournament and a paper airplane contest. The Engineers' Council and Student Union are sponsoring Engineers' Weekend.

Polish prints to make American debut here

An exhibit of Polish prints never before seen outside of that country will be displayed April 2-23 in Bixby Gallery, Bixby Hall. An opening reception will be held from 3 to 5 p.m. Sunday, April 2, in the gallery.

The exhibit will feature 76 works by 44 artists in intaglio, etching, aquatint, drypoint, mezzotint, woodcut, linocut, lithography and screenprint. The majority of the works are in black and white.

Most of the artists have been exhibited abroad, and many have works in museum collections around the world, including the Museum of Modern Art in New York City and the Portland (Ore.) Museum of Art. Many are graduates of or teachers at one of Poland's two major art institutes: the Academy of Fine Arts in Krakow or the Academy of Fine Arts in Warsaw.

A catalog accompanying the exhibition will include essays on a variety of related topics by Franciszek Bunsch, artist and professor at the Art Academy of Krakow; Frederick Luebke, a University of Nebraska-Lincoln (UNL) historian; Barbara Galuszka Parsons, an American printmaker; Tadeusz Nucowski, a Polish printmaker whose work is included in the exhibit; Derek Guthrie, art critic and publisher of New Art Examiner; and Leslie Luebbbers, an

independent curator and former director of the World Print Council.

In the foreword to the catalog, Karen Kunc, exhibit organizer and gallery director at UNL, says economic and historic factors influence Polish printmaking in ways their American counterparts may find surprising. Supplies, for example, are limited, and Polish prints are consequently smaller in scale and use fewer colors, Kunc says.

Bunsch, whose work is represented in the exhibit, writes about Poland's long history of printmaking in the introductory essay of the catalog. Artists in Poland have always built on their native traditions, including folk art, and have been recognized internationally for their works, he says.

A complete list of participating artists and their works, as well as some reproductions, are included in the catalog, which is available for \$3 at the gallery.

Funding for the exhibit is provided by the University of Nebraska-Lincoln Research Council. The exhibit will travel to seven other cities following its showing at Washington University.

Bixby Gallery hours are 10 a.m.-4 p.m. weekdays and 1-5 p.m. weekends. The exhibit is free and open to the public.

For information, call 889-6500.

Long-term care for elderly lecture topic

"Long-Term Care for the Elderly: A View From Washington, D.C." is the topic of a lecture to be given by Joel Leon, Ph.D., senior gerontologist at the National Center for Health Services Research in Rockville, Md.

Leon, adjunct assistant professor of social work at Washington University, will deliver the lecture at 1:10 p.m. Thursday, April 6, in Brown Hall lounge. The lecture, which is free and open to the public, is part of the George Warren Brown School of Social Work Spring Lecture Series.

While assistant professor of social work at the University from 1983 to

January 1989, Leon received a grant from the Administration on Aging to develop a curriculum and train students in the new field of geriatric social work practice.

Leon, who also was director of the social work school's Training Program in Geriatric Case Practice, directed a study to determine the expenses incurred in caring for an Alzheimer's disease patient at home.

He currently is working on the National Medical Expenditure Survey at the national center.

For more information on the lecture, call 889-6606.

Author Caroline Bird to deliver lecture on coping with choice

Author Caroline Bird will present the Adele Chomeau Starbird Memorial Lecture in the Assembly Series at 11 a.m. Tuesday, April 4, in Graham Chapel. Her lecture is titled "Coping With Choice: The Dilemmas Ahead."

Co-sponsored by the Women's Society of Washington University and the Assembly Series, the lecture is free and open to the public.

Bird is author of several books that explore social change. Her most recent is *The Good Years: Your Life in the Twenty-First Century*, published in 1983. In this book Bird takes a positive view of the future, arguing that the United States will become freer, stronger in public services, healthier and more innovative.

Among her other books are *The Two Paycheck Marriage*, which discusses the impact of working wives on life in the United States; *The Case Against College*, which examines the declining cash value of a college education; and *Born Female*, which in

1968 became a major text for the emerging women's movement.

Bird was Froman Distinguished

Professor at Russell Sage College from 1972-73 and Mather Professor at Case Western Reserve University in 1977. She is a member of the American Sociological Association and the Society of Journalists and Authors.



Caroline Bird

Starbird served as Washington University's dean of women from 1931 to 1959. For 30 years she wrote a column for the old St. Louis Star-Times and later the Post-Dispatch. A collection of her columns, titled *Many Strings to My Lute*, was published in 1977.

For more information, call 889-5285.

Creativity in 'Age of Sleaze' is topic of composer Donald Erb's lecture

Donald Erb, composer-in-residence for the St. Louis Symphony, will speak in the Assembly Series at 4 p.m. Thursday, April 6, in the Anne Whitney Olin Women's Building lounge. His talk is titled "What Do Henry Ford, Pope John XXIII and Elvis Presley Have in Common; or, the Struggle for Creative Identity in the Age of Sleaze."

The lecture, co-sponsored by the Assembly Series, Comparative Literature and Department of Music, is free and open to the public.

Erb, a professor of composition at Indiana University in Bloomington, is a leading innovator in the field of electronic music. His music often combines seemingly disparate elements, such as electronic sounds with an orchestra and rock band, or mixed recorded sounds with live instrumental music.

Erb's orchestral work has received hundreds of performances throughout the world, and he has completed commissions for several orchestras and chamber ensembles in the United States and Europe.

He is the recipient of a Guggenheim fellowship as well as grants from the Ford Foundation, the National Council on the Arts and the Rockefeller Foundation. His honors include the Cleveland Arts Prize and the Award of the American Academy and Institutes of Arts and Letters.

Erb began his career as a trumpet player and arranger for dance bands at the end of the Big Band era. He subsequently received degrees from Kent State University, the Cleveland Institute of Music and Indiana University.

For more information, call 889-5285.

Savor St. Louis fund-raiser offers food samples from area restaurants

A fund-raising food festival featuring the specialties of 10 area restaurants will be held from 11 a.m. to 4 p.m. Friday, March 31, on the field between Simon Hall and Mudd Law Building.

Chimes, the Junior Women's Honorary Society, is sponsoring the Savor St. Louis festival. Proceeds from the festival, which is co-sponsored by the Coca-Cola Co., will benefit the Women's Self-Help Center in St. Louis.

The featured restaurants are: Empanadas Unlimited Inc.; European Caffe; Gino Colletto; Harold's Deli and Bakery; Roma's The Place For Ribs; Schmiezing's Millbrook Cafe; Scoops in the Loop; Shalimar Gardens; Yen Ching Restaurant; and Zorba The Greek Restaurant.

Food can be purchased from the vendors using 50-cent tickets that will be on sale at the festival.

In addition, a raffle drawing for prizes of meals at other area restaurants will be held at 3:30 p.m. Restaurants donating prizes for the raffle are: Burrito Brothers; Hacienda Mexican Restaurant; Hunan Wok; Sunshine Inn; and Talayna's Italian Restaurant. The 25-cent raffle tickets will be sold at the food festival.

Live entertainment will be provided by the Pikers and the Greenleafs, two campus vocal groups. The Soulard

Blues Band also will perform.

For more information, call 862-7066.

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NOTABLES

Joseph R. Allen, Ph.D., assistant professor of Chinese, Department of Asian and Near Eastern Languages and Literatures, has accepted a position as a Harvard University Mellon Faculty Fellow for the 1989-90 academic year. During the award period, he will conduct research leading to a book of essays on "Macro-poetic Structures in Chinese Literature." He also will teach an undergraduate seminar on the Chinese poetic sequence in the Department of East Asian Languages and Civilizations. In addition, Allen was awarded a research fellowship for 1989-90 at the Center for Chinese Studies of the National Central Library, Taipei, Taiwan, to conduct research on traditional Chinese lexicography.

Edwin Andrews, assistant professor in sculpture, received a Mid-American Arts Alliance/NEA Fellowship Award. Ten artists from Missouri, Kansas, Nebraska and Texas were selected for the fellowships. A jury of four nationally recognized artists selected the winners. Andrews also recently lectured on his work at the Corcoran School of Arts and at the University of Maryland School of Fine Arts.

Arnold H. Buss, Ph.D., assistant professor of management science, presented "Reliability of Linear Oscillators Subject to Wind Load" (written with M. Grigoriu) at the Sixth U.S. National Conference on Wind Engineering, held March 8-10 in Houston, Texas.

William R. Caspary, Ph.D., associate professor of political science, recently spoke on "Ethics in International Relations: Power and Morality" in the Great Decisions '89 Lecture Series sponsored by the World Community Center in St. Louis.

Gregory Claeys, Ph.D., associate professor of history, recently spoke on "The French Revolution Debate in Britain" at the annual meeting of the Consortium on Revolutionary Europe at Charleston, S.C., and the Society for the Study of Labour History in Nottingham, England. His book *Citizens and Saints, Politics and Anti-Politics in Early British Socialism* will be published by Cambridge University Press in April. Claeys recently was awarded a National Endowment for the Humanities Fellowship for 1989-90 to continue research on late 18th-century British intellectual history.

Suzanne M. Cornbleet, instructor, and **Shirley A. Sahrman**, Ph.D., associate professor, both of the Program in Physical Therapy, were invited speakers at the 1989 Combined Sections Meeting of the American Physical Therapy Association, held Feb. 2-5 in Honolulu, Hawaii. Cornbleet's presentation before the education section was titled "A Clinical Faculty Assessment Center." This was the report of an innovative teaching tool involving students and clinical faculty in role-playing situations to improve the communication and performance evaluation skills of clinical faculty. Sahrman presented a full-day session on the "Diagnosis and Treatment of Muscle Imbalances in the Geriatric Population" for the geriatric section. **Susan Deusinger**, Ph.D., instructor and acting director of the Program in Physical Therapy, attended the Council of Chapter Presidents in her capacity as president of the Missouri Physical Therapy Association.

Richard deCharms, Ph.D., professor of education and psychology, was selected as the University of North Carolina's distinguished alumnus honoree for 1988-89. DeCharms

completed his doctorate in social psychology with minors in mathematical statistics and sociology at the University of North Carolina in 1956.

Nicholas Dopuch, Ph.D., the Hubert C. and Dorothy R. Moog Professor of Accounting, and **Ronald R. King**, Ph.D., assistant professor of accounting, were awarded a \$22,000 research grant by the Peat Marwick Foundation's Research Opportunities in Auditing Program. The grant will support a project titled "The Effects of Alternative Liability Rules and Threats to Auditor Independence on the Demand for and Supply of Auditing Services: An Experimental Markets Study." This research seeks to determine the potential effects from increased regulations and legal exposure on the auditing industry using experimental markets methodology.

Stephen W. Hiatt, D.D.S., assistant professor of oral and maxillofacial surgery at the schools of Medicine and Dental Medicine, had a paper published in the March 1989 Journal of Oral and Maxillofacial Surgery. The paper was titled "Management of a Mandibular High-Flow Vascular Malformation."

Le-Xuan-Hy, Ph.D., visiting assistant professor of psychology, will receive the Samuel J. Beck Award for an outstanding research paper on personality assessment or personality dynamics on April 15 in New York City by the Society for Personality Assessment and the University of Chicago. His winning paper is titled "Cross-cultural Measurement of Ego Development." Hy, who received his doctorate from the psychology department in 1986, is working with **Jane Loevinger**, Ph.D., William R. Stuckenberg Professor Emerita of Human Values and Moral Development.

Ty Keough, head men's soccer coach, recently was awarded a National "A" Soccer Coaching License from the United States Soccer Federation, the organizing body for soccer recognized by the U.S. Olympic Committee. The license certifies the holder to coach players to perform to the highest international standards. Keough has been named the assistant coach for the East Team in the annual Senior Bowl to be played at 7:30 p.m. March 31 at the St. Louis Soccer Park. The Senior Bowl showcases the top graduating collegiate soccer players in the United States.

John M. Kissane, M.D., professor of pathology and of pathology in pediatrics, served as co-moderator of a symposium on the "Mechanisms of Renal Injury" at the annual meeting of the Society for Pediatric Pathology, held March 4 in San Francisco. **George F. Schreiner**, M.D., Ph.D., assistant professor of medicine and of pathology, discussed "The Role of Monocytes in Glomerular Injury" at the meeting.

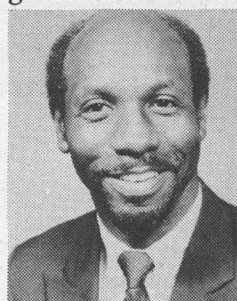
Dwight R. Lee, Ph.D., John M. Olin Visiting Professor at the Center for the Study of American Business, is attending the Southwestern Social Sciences Meeting in Little Rock, Ark., from March 27-31, where he is delivering a lecture titled "The Efficiency Case Against Excise Taxes." He also will give a talk on "Ideology and the Proper Role of Government" April 20-21 at Holy Cross College in Boston, Mass. On April 8 he will conduct a workshop on the economics of politics for high school teachers in Denver, Colo. The workshop is sponsored by the Colorado Council on Economic Education.

King symposium — *continued from p. 1*

by Washington students. The show will be on display in the Wohl Center lobby from 5 to 7 p.m. on April 3.

On Tuesday, April 4, a book fair offering works by African-American authors will be held from 11 a.m. to 1 p.m. in the Mallinckrodt Center lobby. At 7 p.m. in Room 100, Busch Hall, a documentary on Malcolm X will be shown. Following the documentary, Robert Watson, a part-time visiting instructor in African and Afro-American Studies, will lead an audience discussion. Watson is head of the Vaughn Cultural Center in downtown St. Louis.

Na'im Akbar, a clinical psychologist at Florida State University in Tallahassee, Fla., will present the keynote address for the symposium at 11 a.m. Wednesday, April 5, in Graham Chapel. His lecture, part of the Assembly Series, is titled "From Martin and



Na'im Akbar

Malcolm to Realizing the Afro-American Self." A reception for Akbar will be held at 1 p.m. in the Women's Building Lounge.

A specialist in the psychology of the African-American, Akbar is author of several books and papers. His most recent book, *Chains and Images of Psychological Slavery*, published in 1984, examines the impact of slavery as a continuing influence on the psychology of African-Americans.

Akbar has served several terms on the board of the National Association of Black Psychologists and was national president of that organization from 1987-88. He is on the editorial board of the Journal of Black Studies and is associate editor of the Journal of

Black Psychology.

For 10 years Akbar was a columnist for the international newspaper Muslim Journal. He also served for two years as director of the Office of Human Development for the Nation of Islam.

A forum titled "Progress and Unity: By Any Means Necessary" will be held at 7 p.m. Thursday, April 6, in Room 110, Simon Hall. The forum panelists will examine how to deal effectively with issues of importance to African-Americans, such as economics and politics.

The panelists will be Mo. Rep. William Clay Jr.; Rev. Ronald Packnett, a part-time instructor in African and Afro-American Studies and pastor of Central Baptist Church; Ida Goodwin-Woolfolk, a coordinator in the staff development division of the St. Louis Public Schools; Washington alumnus Paul L. Miller, president of P.L. Miller & Associates and a member of the University's Board of Trustees; and Florida Bosley, Ph.D., associate director of Student Educational Service. A question-and-answer session will be held after the forum.

At 7:30 p.m. on Friday, April 7, Rhythms in Anoh, a local African-American dance troupe, will perform at Olin Studio in the Women's Building. Deborah Ahmed, a part-time instructor in African and Afro-American Studies, is the group's founder and choreographer.

The sponsors of the Martin Luther King Jr. Symposium are Association of Black Students, African and Afro-American Studies, Assembly Series, Student Educational Service and Student Union.

For more information on the events, call 889-5970; for more information on the Assembly Series lecture, call 889-5285.

National Geographic — *continued from p. 1*

Because the Jivaro are illiterate, their healers must memorize hundreds of plant names, locations and recipes. As the younger Jivaro are gradually exposed to the outside world, they lose interest in the ages-old art of herbal medicine. The Lewises have found that the only way to garner their secrets is to nurture their friendship and learn about their remedies firsthand.

"We've always tried to present ourselves to the Jivaro as harmless visitors, not intruders," says Lewis. "We've built a solid relationship with them over the years."

"The Jivaro are our friends," adds Elvin-Lewis. "They now know us from our numerous visits and often go out

of their way to treat us kindly."

Still, the Lewis' expeditions to the mysterious world of the Jivaro rain forest are not without surprises — or peril. Last summer while visiting a tribe of Jivaro in Ecuador, Lewis broke his sternum in a fall, and Elvin-Lewis contracted malaria. They were 400 miles from the nearest city with a hospital, but both weathered the experience with no loss of fascination with the rain forest's wonders.

After seven trips since 1982 to the land of the Jivaro, the Lewises have no immediate plans of returning. Instead, they will be busy growing and analyzing the plants for their potential medicinal value.

Tony Fitzpatrick

Gary Miller, Ph.D., professor of political economy, presented a paper titled "Constitutional Conflict in State and Nation" on March 9 at the Columbia Law School as part of its Law and Economics seminar series. The paper was co-authored with Cheryl Eavey of Florida State University.

Chakravarthi Narasimhan, Ph.D., associate professor of marketing, presented a paper on "Managerial Perspectives on Trade and Consumer Promotions" at Duke University's Marketing Science Conference held March 15-17.

Walter R. Nord, Ph.D., professor of organizational psychology in the business school, led a session at the

American Assembly of Collegiate Schools of Business' Seminar on Internationalizing the Business School: Beyond the Basics. The seminar was held Feb. 5-7 in Miami, Fla.

Have you done something noteworthy?

Have you: Presented a paper? Won an award? Been named to a committee or elected an officer of a professional organization? The Washington University Record will help spread the good news. Contributions regarding faculty and staff scholarly or professional activities are gladly accepted and encouraged. Send a brief note with your full name, highest-earned degree, current title and department along with a description of your noteworthy activity to Notables, Campus Box 1070, or by electronic mail to p72245SS at WUVMC. Please include a phone number.

MEDICAL RECORD

Putting a finger on fear

Researchers locate anxiety area of the brain

If you could have looked into your brain on your way to the principal's office, just before the dentist drilled into your tooth, or right before your first job interview, what would you have seen?

Researchers at the School of Medicine and Mallinckrodt Institute of Radiology now know. They have, in fact, located what may very well be the seat of anxiety and fear, marking the first time ever that scientists have established involvement of specific parts of the human brain in a normal emotion.

As reported in the February 24, 1989 issue of SCIENCE, the production of anticipatory anxiety was associated with increased activity in the temporal poles - the tips of the temporal lobes, located in both hemispheres of the brain, inside the temples and behind the eyes.

The researchers — Eric Reiman, M.D., Marcus Raichle, M.D., Peter Fox, M.D., and registered nurse Maureen Fusselman, — used positron emission tomography (PET) to study normal volunteers with and without the production of anticipatory anxiety. PET produces images of regional blood flow in the brain. Since blood flow directly reflects the activity of brain cells in different parts of the brain, the PET images were used to identify which parts of the brain are involved in this form of anxiety.

Inducing anxiety

In order to investigate the neuroanatomy of anxiety, the research team had to design a situation that would make normal volunteers anxious and keep them anxious throughout a 40-second PET scan. They chose a time-tested method for inducing anxiety in a laboratory setting: the expectation of a painful electric shock. "We were confident that this strategy would be effective in producing a well-defined and robust state of anxiety," says Reiman, an assistant professor of psychiatry and the study's principal investigator.

In order to investigate the neuroanatomy of anxiety, the research team had to design a situation that would make normal volunteers anxious and keep them anxious throughout a 40-second PET scan.

The eight research subjects were asked to participate in a study designed to measure their "physiological response to the prospect of a painful stimulus." They were told that a PET scan would be performed before, during, and after the prospect of a painful electric shock. The subjects were told that no shock would be delivered during the first and third scans, which provided baseline measurements of regional blood flow. In contrast, the subjects were told that an electric stimulus would be delivered

to their hands some time after the start of the second scan. Moreover, they were informed that the severity of the stimulus was likely to increase with the passage of time before its arrival. This instruction produced a sustained episode of anxiety during the second scan.

The shock was delivered immediately after the 40 second scan to preserve the investigators' credibility for the remainder of the study. However, the severity of the stimulus was predetermined by the researchers to actually produce only a tingling sensation or mild discomfort. Afterwards, the subjects typically reported that the shock wasn't nearly as bad as they had anticipated. Their anxiety quickly subsided.

After all of the subjects were studied, a sophisticated computer program was employed to identify the regions of the brain which had significant increases in blood flow during the production of anticipatory anxiety. The increases in blood flow were confined to the right and left temporal poles.

Normal vs. pathological

The study of normal anticipatory anxiety follows PET research on a pathological form of anxiety that affects about 1.2 million people - panic disorder, a syndrome characterized by recurrent anxiety attacks that occur suddenly and sometimes at unexpected times.

PET was used to study patients with panic disorder and normal volunteers before and during the infusion of sodium lactate. This technique precipitates an anxiety attack in many patients with panic disorder, but rarely does so in normal volunteers.

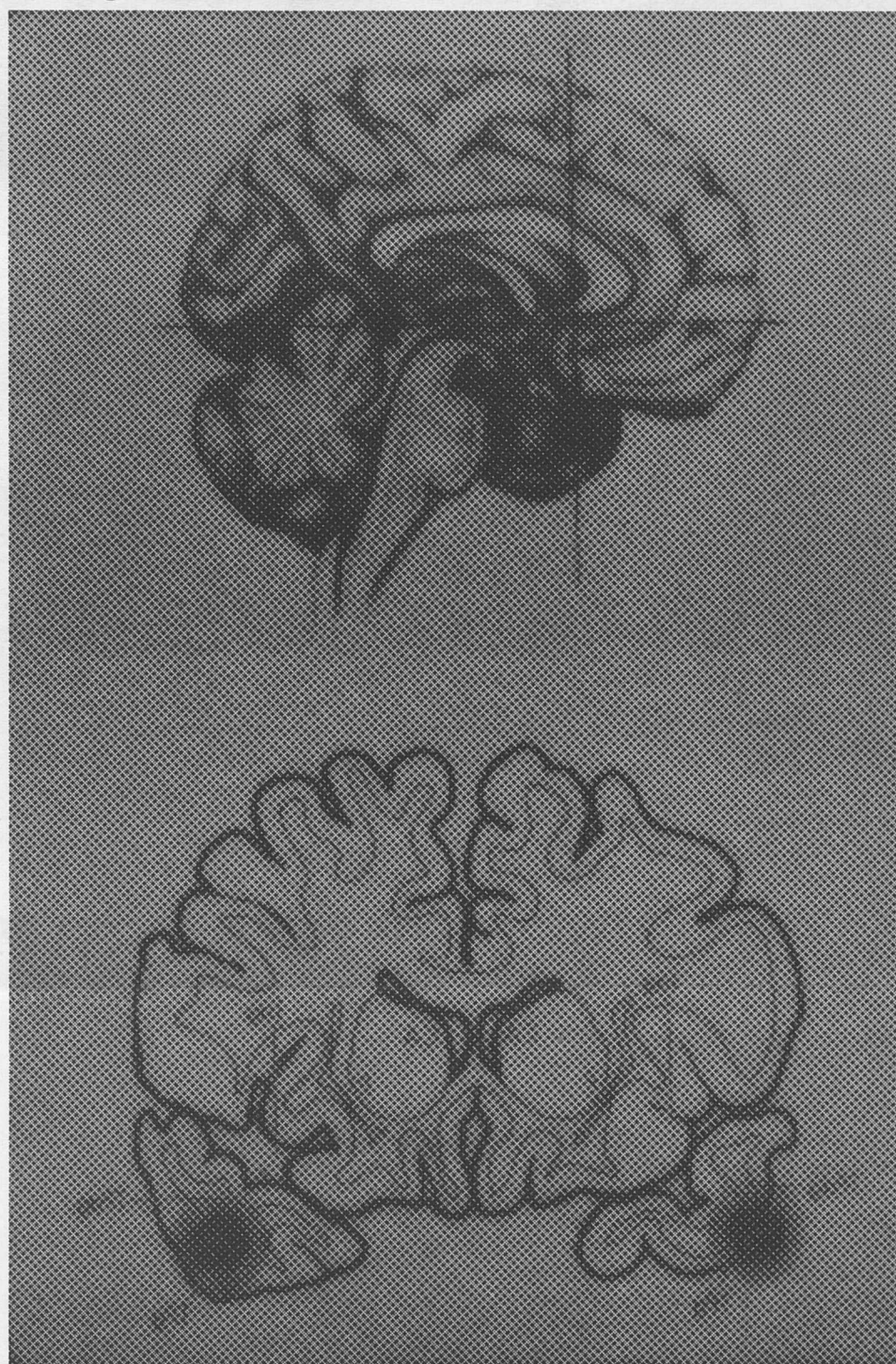
Initially, Reiman and his colleagues analyzed PET images obtained in the nonpanic state prior to lactate infusion. They found that predisposition to a lactate-induced anxiety attack was associated with an abnormal asymmetry of blood flow and oxygen metabolism in the vicinity of the parahippocampal gyrus, another part of the temporal lobe closer to the back of the head.

Later, the PET researchers, along with Eli Robins, M.D., and Joel Price, Ph.D., investigated the changes in regional blood flow related to a lactate-induced anxiety attack. They found significant and large increases in blood flow in both temporal poles, the same regions that they subsequently implicated in the production of anticipatory anxiety. Interestingly, the temporal poles receive information from the abnormal parahippocampal region that they previously found in patients who were predisposed to lactate-induced panic.

Says Reiman, "Our earliest research suggests that panic disorder is distinguished from normal conditions by the presence of an abnormality in the vicinity of the parahippocampal gyrus, an abnormality that may be involved in the initiation of an anxiety attack. Our subsequent studies suggest that pathological and normal anxiety - at least those forms of anxiety that we have studied so far - share a common pathway involving the temporal poles."

Future directions

Reiman is excited about the



Anxiety is associated with increased activity in the temporal poles — the tips of the temporal lobes, located in both hemispheres of the brain, inside the temples and behind the eyes.

prospects for future research. "For one thing, we need to investigate how a particular treatment exerts its therapeutic effect: If a particular medication or psychotherapy is effective in the treatment of panic disorder, does it work by correcting the parahippocampal abnormality? Does it work, instead, by interfering with some triggering event that interacts with the parahippocampal region in the initiation of an anxiety attack? Or does it work by interfering with progression of an anxiety attack through the temporal poles?"

"In addition, we need to establish precisely how the mind and brain are operating in the production of anxiety. Like other mental processes, anxiety is a multifaceted condition. One facet of anxiety is the evaluation procedure that leads to a sense of helplessness, uncertainty and danger. Another is the process involved in the conscious experience of anxiety. Still other facets of anxiety are those processes involved in the cognitive, behavioral and autonomic expressions of anxiety. Eventually, we must try to dissect the various forms of anxiety into their elementary mental operations. Ultimately, we must relate these elementary operations to specific pathways in

the brain. Some researchers have already made substantial progress in these endeavors.

"We need to extend this line of work to the study of other emotions and emotional disorders. Clearly, PET research is presenting us an exciting new arena in the study of mind and brain."

— Eric Reiman

"We need to extend this line of work to the study of other emotions and emotional disorders."

Today it's anxiety. Tomorrow, it may be sadness, anger, joy. "Clearly, PET research is presenting us an exciting new arena in the study of mind and brain," Reiman says.

Kathy Heine

Cloninger to head psychiatry

C. Robert Cloninger, M.D., a scientist who is recognized worldwide for studies on the inheritance and classification of psychiatric disorders, has been named head of the Department of Psychiatry at the School of Medicine. He also will become psychiatrist-in-chief at Barnes Hospital, a sponsoring institution of the Washington University Medical Center.

Cloninger's appointment is effective July 1. He replaces Samuel B. Guze, M.D., who has served as Spencer T. Olin Professor of Psychiatry and head of the department since 1975. Guze is retiring as department head but will continue as Olin Professor, concentrating fulltime on patient care and research activities.

"The Washington University psychiatry department is recognized worldwide for its research and for its care of patients," Chancellor William H. Danforth, M.D., said. "Dr. Cloninger is an excellent choice to follow his distinguished predecessors, Dr. Guze and Dr. Eli Robins. Like them, he is a scientist who is making contributions to our understanding and improved care of psychiatric illness."

Cloninger is professor of psychiatry and genetics at the School of Medicine, and director of outpatient psychiatry at Jewish Hospital at the medical center. He is also a consulting psychiatrist at Malcolm Bliss Mental Health Center.

He is perhaps best known for his work on the clinical assessment of personality and his adoption studies in Sweden. This work allowed him in 1981 to identify two types of alcoholism: with type 1, the most prevalent, drinking begins in the mid-20s to 30s, causes medical problems in later years, and is the result of both genetics and environment; with type 2, which usually occurs in men and often in criminals, inherited tendencies are the primary cause and there are rarely medical problems.

Cloninger also has studied the classification and inheritance of many other psychiatric disorders, including schizophrenia, anxiety disorders, mood disorders and personality disorders. He is currently continuing

his work on personality and several family and adoption studies. Also he is working with colleagues on molecular genetic research to locate linkage markers, the specific genetic mechanisms related to susceptibility to alcoholism and schizophrenia.

Cloninger received his M.D. degree from Washington University in 1970, then spent three more years at the medical school as an assistant resident and a National Institute of Mental Health (NIMH) assistant and trainee in psychiatry. He joined the Washington University faculty in 1973 as an instructor in psychiatry.

From 1975-85, Cloninger conducted studies as an NIMH research scientist development awardee in quantitative genetics. During that period he spent a year as a visiting investigator at the University of Hawaii's Population Genetics Laboratory. Since 1975 he has had a Research Scientist Award from NIMH.

He was named associate professor of psychiatry in 1978 and of genetics in 1979, becoming a full professor in both departments in 1981. In addition, he has served as visiting professor of psychiatry and genetics at the University of Umea School of Medicine in Umea, Sweden.

Cloninger is a diplomate of the American Board of Psychiatry and Neurology, a fellow of the American Psychiatric Association and the American Psychopathological Association, and a member of numerous other organizations. He serves frequently as a consultant and advisor concerning various psychiatric disorders, particularly their diagnostic classification. He is associate editor of the journal Genetic Epidemiology and an editorial board member of the Archives of General Psychiatry.

Cloninger has received an honorary doctor of medicine from the University of Umea for distinguished contributions to genetic epidemiology of psychiatric disorders, and the 1988 Strecker Award from the Institute of Pennsylvania Hospital for significant contributions to psychiatric patient care and treatment.

Muir awarded diabetes fellowship

Andrew B.S. Muir, M.D., a research fellow in the Department of Pediatrics at the School of Medicine, has been awarded a fellowship to support his research in diabetes.

The fellowship, one of only three awarded each year by the Institute of Pediatric Service of the Johnson & Johnson Baby Products Co., will begin July 1. It will enable Muir to study the possible role of prostaglandins and diet-induced essential fatty acid deficiency in preventing the destruction of hormone-producing tissues of the pancreas. The goals of this research are to find ways to prevent the

development of childhood diabetes and to develop methods to safely transplant insulin-producing tissues in children who have diabetes.

Muir, a second-year fellow in the division of endocrinology and metabolism, came to the School of Medicine in 1987. He received his medical degree in 1984 from the University of Toronto School of Medicine, and served an internship and residency at the Hospital for Sick Children in Toronto. He is a diplomate of both the Royal College of Physicians and Surgeons of Canada and the American Academy of Pediatrics.

Cholesterol study needs volunteers

The Lipid Research Clinic at the School of Medicine is seeking volunteers to participate in a study testing an investigational drug to lower cholesterol.

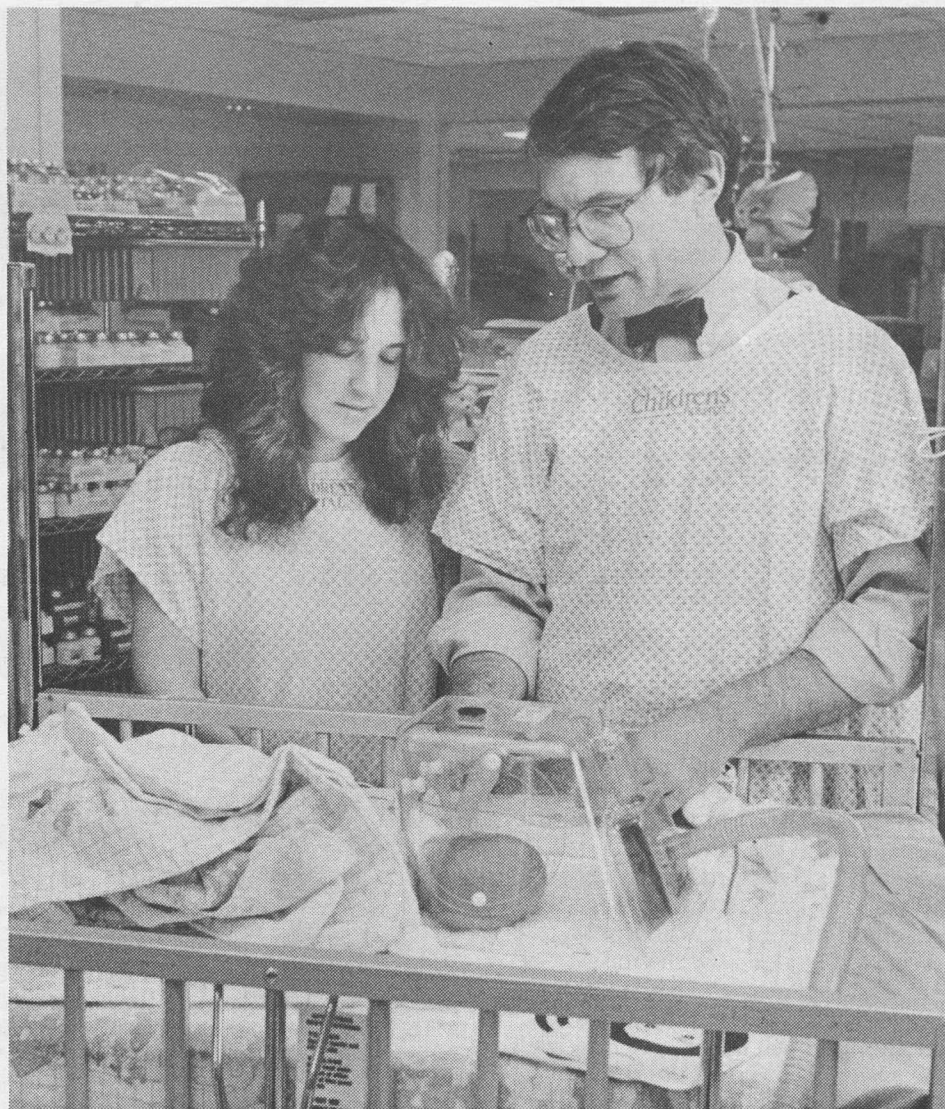
Participants will receive complete physical exams, laboratory tests and an EKG. There will be 15 visits over a period of six months. Most visits will involve having blood drawn and consultation with a registered dietitian.

Principal investigator for the study is Anne Goldberg, M.D., assistant professor of internal medicine and

director of the Lipid Research Clinic. The project is funded by Parke-Davis, manufacturers of the drug.

To be eligible for the study, participants need to be 18-70 years old with elevated cholesterol levels. Women should be either postmenopausal, using a barrier method of birth control, or have had a tubal ligation or hysterectomy.

For more information, call Keely Cook at the Lipid Research Clinic, 361-8841.



F. Sessions Cole, M.D., and second-year medical student Susan Benfield check on a baby in the neonatal intensive care unit at Children's Hospital.

Operation ChildSave

Reducing infant mortality is program aim

The future lies within the hearts and minds of our children. But St. Louis has one of the worst rates of infant mortality in the United States: in some parts of the city and county, children under the age of one die at rates up to three times the U.S. average.

To combat this tragic waste of human potential, the School of Medicine has joined forces with other area health care and social service agencies to create Operation ChildSave, a community-based effort to reduce infant mortality by providing good prenatal and infant care.

Coordinated by the St. Louis city and county health departments, Operation ChildSave encourages women to identify their pregnancy as early as possible and to seek immediate, appropriate medical care that they will use throughout their pregnancy.

"Operation ChildSave is an action-oriented system that emphasizes the vital role of preventive health care in solving the terrible problem of infant mortality," says F. Sessions Cole, M.D., associate professor of pediatrics at the School of Medicine, director of newborn medicine at Children's Hospital, and co-chairman of Operation ChildSave. "We already know that infant mortality is one of the most significant problems facing St. Louis. What is needed now is active intervention to keep it from happening."

Operation ChildSave's first steps toward reducing the number of infant deaths began in February, with a 24-hour telephone referral service at 531-BABY. The hot line directs callers to health and social service providers who meet the patient's medical, financial and social needs. In addition, services such as pregnancy testing, maternity and infant care, and family planning information can now be obtained at 17 locations throughout the city and county.

Although the full range of services

needed for comprehensive prenatal care has been widely available for quite some time in the city and county, not enough pregnant women have taken advantage of them. "The current clinic and hospital system is essentially passive, providing services to people who know it's there and know how to use it," says David Gurule, chief health planning officer for the St. Louis Department of Health and Hospitals. "But all too often the system fails to reach out to those who need it most."

To remedy this breakdown in the system, other Operation ChildSave programs include radio and television public service announcements and leaflets that emphasize the importance of early prenatal care; outreach and public education activities; and plans for an expanded public health nursing program to address the needs of high-risk populations. By fall, a computer-based tracking system will coordinate patient information and ensure the continuity of patient care and follow-up among multiple health care providers.

"The problem of infant mortality is bigger than any individual provider or agency," says Gurule, a member of Operation ChildSave's health nursing committee. "Operation ChildSave is based on the premise that this problem, and any effort to reduce it, will require the coordinated talents and resources of many participants. Operation ChildSave offers an initiative to bridge the gaps in the existing health care system, using approaches which seek to simplify, enhance and strengthen it."

Adds Cole: "We've already got the technology with which to manage the acute child health problems that lead to infant mortality. What is needed is a program to prevent these problems from occurring in the first place. We believe that Operation ChildSave is such a program."

MEDICAL RECORD

Ludmerer to write book sequel on medical education

Kenneth M. Ludmerer, M.D., associate professor of medicine at the School of Medicine, has received a grant to continue his study of medical education in the United States.

The three-year grant, totaling \$225,000, is from the Josiah Macy, Jr. Foundation and will enable Ludmerer to research and write a sequel to his book, "Learning to Heal: the Development of American Medical Education." That book, published in 1985 by Basic Books, a division of Harper & Row, covered the history of medical education in the U.S. from the mid-19th century to 1925.

In the sequel, Ludmerer will trace the development of medical education from 1925 to the present, focusing on such topics as the financing of medical education; the special problems of minority medical education; the relationship between teaching and research; and the erosion of medical education's traditional patient base. He hopes to examine not only how our system of medical education has evolved, but also how the mission of American schools and teaching hospitals has changed over time. In addition, he will investigate how well the system has served the students, patients and public it was created to serve.

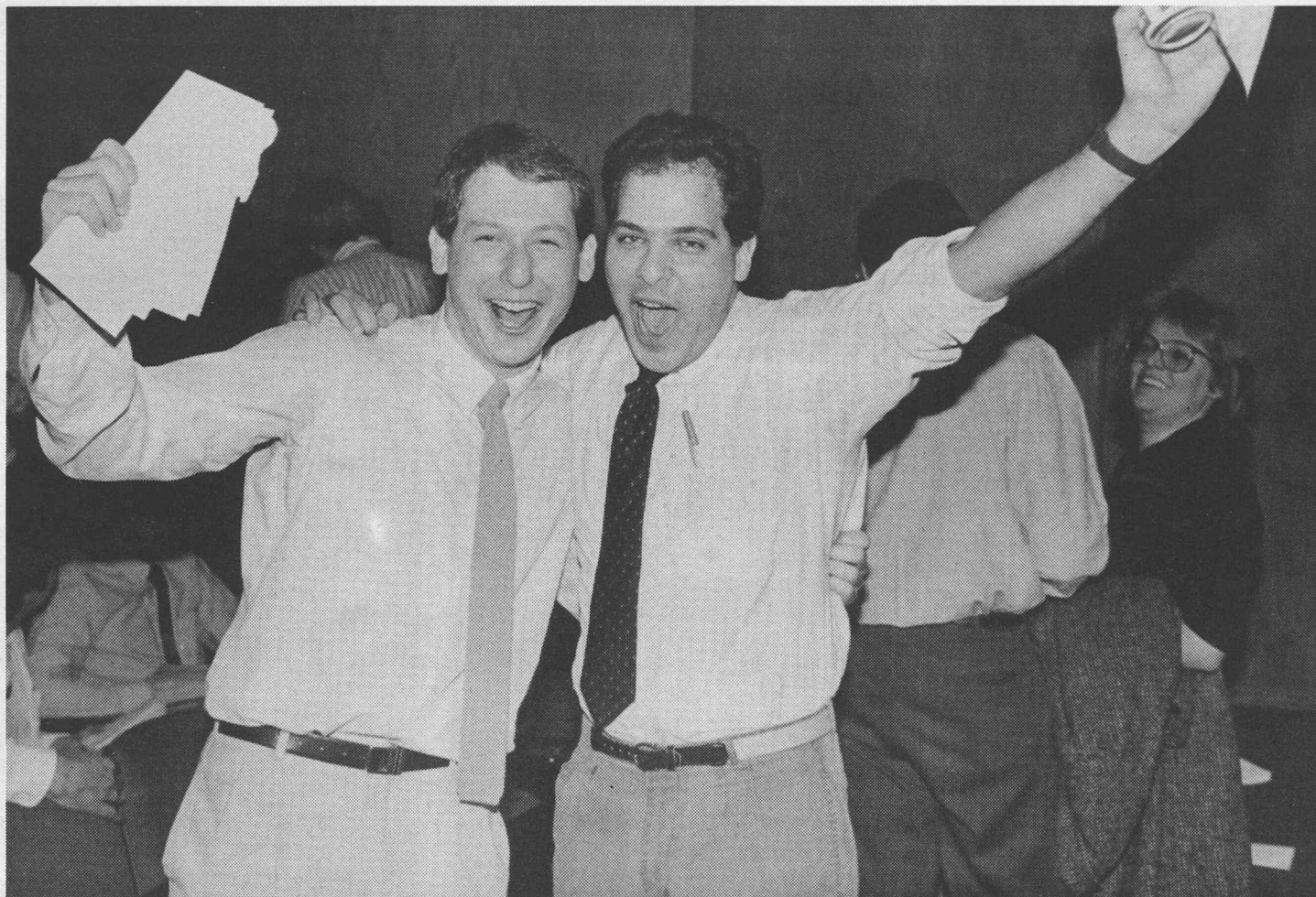
The sequel will be Ludmerer's third book. His first, "Genetics and American Society," was published in 1972 and selected by the Saturday Review as one of the year's 10 outstanding books on scientific subjects. "Learning to Heal" was reviewed by one critic as "a stunning achievement" and is considered the definitive history of the progression of medical education in the U.S. It was nominated for the 1986 Pulitzer Prize in History and the Bancroft Prize.

The Josiah Macy, Jr. Foundation was chartered in 1930 to support and improve medical education. It was endowed by Kate Macy Ladd in memory of her father.

Ludmerer holds joint academic appointments in the School of Medicine and the Department of History. From 1980-83, he was a teaching and research scholar of the American College of Physicians and was one of the first recipients of a five-year, \$50,000 scholar's grant established by the Henry J. Kaiser Family Foundation.

Ludmerer serves on the editorial boards of the American Journal of Medicine, the Journal of the History of Medicine and Allied Sciences, and The Pharos. He has been a visiting professor at many distinguished universities and a keynote speaker on numerous occasions, including the bicentennial celebration at Harvard Medical School in 1982, and the sesquicentennial celebration at Albany Medical College in 1988. He will deliver a commencement address at the University of Arizona School of Medicine in May, and will be a keynote speaker at the centennial celebration at the Johns Hopkins School of Medicine next year.

In addition, Ludmerer is active in many national professional organizations, including the national advisory board of the Robert Wood Johnson Foundation's Clinical Scholars Program; the publication policy committee of the American College of Physicians; and the Association of American Medical College's committee to evaluate the New Pathway Program, an experimental curriculum at Harvard Medical School. Locally, he is a member of the board of trustees of the Missouri Historical Society-St. Louis History Museum.



Match Day 1989: Fourth-year medical students Mark Drazner (left) and Glen Reznikoff are jubilant with the news of their residency appointments. Both will be going to the University of Texas Southwestern Medical School in Dallas to serve residencies in internal medicine. One-hundred twenty-one students converged on Cori auditorium March 22 to learn where they would serve residencies.

Sobel addresses evolution and future of cardiac research

Speaking to more than 7,500 of his colleagues, Burton E. Sobel, M.D., traced the evolution of coronary thrombolysis and discussed future developments in the field during the opening address of the American College of Cardiology's annual meeting, held March 20-24 in Anaheim, Calif.

Coronary thrombolysis — the breaking up of blood clots that cause heart attacks — is a fitting topic for Sobel, the Tobias and Hortense Lewin Professor of Cardiovascular Diseases and director of the cardiovascular division at the School of Medicine. He is recognized worldwide as a leader in thrombolytic research, and is often credited for the clinical introduction of t-PA, a genetically engineered drug with clot-dissolving properties that enable it to literally stop heart attacks in progress.

Sobel's talk focused on improvements in thrombolysis as a result of genetic engineering, which has made it possible to produce large quantities of t-PA, a protein that is found in very small amounts in the body. He also spoke of future modifications to genetically derived agents that could further enhance therapy.

Some 1.2 million people in the United States have heart attacks each year. Conventional treatment, Sobel told the audience, fails to prevent death in eight to twelve percent of those hospitalized. Coronary thrombolysis has reduced early mortality to as low as five percent in selected patients, he noted.

However, further improvements in thrombolytic agents may be hindered, Sobel commented, because escalating costs have wrought profound changes in the climate of medical practice.

"The high development costs of second-generation thrombolytic agents have intensified cries for rationing of medical care," Sobel said. "Decisions previously predicated on consideration of risk/benefit ratios are now being made increasingly by third party carriers guided too exclusively by economic considerations."

"Unfortunately, the personal physician's view is often denigrated or

at best disregarded. Risk/benefit criteria are often displayed entirely by cost/benefit concerns. In this climate, it is particularly important for us to reassert our role as our patients' advocates in identifying therapeutic regimens best suited for optimal treatment of their life-threatening disorders."

Sobel has conducted extensive research with clot-dissolving drugs and is involved in numerous ongoing projects to improve their effectiveness. Using positron emission tomography, he and his colleagues determined that early administration of thrombolytic drugs is essential in saving heart muscle. He also obtained the first definitive evidence in human subjects that t-PA can dissolve coronary clots, and with less chance for systemic bleeding than the traditional agents streptokinase and urokinase.

Recent findings, Sobel said, have led him to believe that thrombolytic drugs can be improved even further through ongoing research. One possibility is to modify the half-life of the genetically engineered drugs: a short half-life in the circulation may minimize patients' susceptibility to hemorrhage if surgery is required, while a prolonged half-life would induce a therapeutic blood level more quickly and maintain it longer.

Sobel is investigating an agent

that may one day make it possible for certain patients at risk for heart attacks to give themselves intramuscular injections, using syringes similar to those diabetics use. (Currently t-PA is administered intravenously.) There also is potential for making molecular variants of t-PA that could be useful in treating other clot-related conditions.

Three decades ago, Sobel pointed out, death among hospitalized patients with acute myocardial infarction was as high as 30 percent. Defibrillators introduced in the 1960s lowered mortality substantially. There was further progress in the 1970s, a decline of mortality to approximately 12 percent, due to a reduction of myocardial oxygen requirements. Coronary thrombolysis has had an additional salutary impact, he said, with the TIMI II and European Cooperative Study Group trials proving that early mortality can be reduced to 5 percent or less in patients who are suitable candidates.

"The 83 percent reduction of early mortality achieved during the past few decades reflects remarkable progress by numerous investigators in diverse disciplines," Sobel concluded. "With the increasing impact of molecular biology on cardiovascular therapeutics, our patients can anticipate even further reductions in the toll from coronary artery disease."

Children's Hospital to hold 5K run

The starter's gun for the sixth annual St. Louis Children's Hospital 5K Run will sound at 9 a.m. Saturday, April 8. The accompanying one-mile fun run and walk will begin at 9:15 a.m.

The runs start in front of the hospital, 400 South Kingshighway, and wind through Forest Park before ending at Steinberg Rink. Both events are sponsored by Hardee's Restaurants, CPI Photo Finish and the St. Louis Children's Hospital Development Board.

In 1988, the event attracted 1,300 runners, making it the third consecutive year that more than 1,000 people participated.

Registration is \$6 per person if postmarked by April 5. The late registration fee is \$8. All entrants receive a race T-shirt. Awards are given to overall winners and top finishers in male and female age groups in the 5K race. All fun run finishers receive ribbons.

Packet pickup and late registration will be held in the hospital lobby from 3 p.m. to 6:30 p.m. Thursday and Friday, April 6-7, and from 7 a.m. to 8:30 a.m. on race day. Registration forms are available in the lobby of the hospital, at CPI Photo Finish locations or by calling the hospital development office at 454-6262.

PERSONNEL NEWS

WASHINGTON UNIVERSITY
Percentage of female and minority employees in each EEOC job category
(Categories as Defined by Equal Employment Opportunity Commission)*

		Female	Black	Asian/ Pacific Islander	American Indian/ Alaskan Native	Hispanic	Employees in each job category
JOB CATEGORIES		1988	1988	1988	1988	1988	1988
Faculty	N	386	28	107	2	35	1,870
Executive/Admin- istrative/Managerial	N	388	49	5	0	4	644
Professional Non-Faculty	N	736	56	117	0	17	1,209
Secretarial/ Clerical	N	1,388	303	17	3	13	1,535
Technical/ Paraprofessional	N	809	166	61	1	14	1,263
Skilled Craft	N	2	24	1	2	0	170
Service/ Maintenance	N	179	286	6	2	2	451
All Categories	N	3,888	912	314	10	85	7,142
	%	54.4	12.8	4.4	.14	1.2	

*EEO-6 (11/88) Includes regular part-time employees

University committed to affirmative action policy

I. Purpose

Washington University is committed to providing equal opportunity to all qualified individuals in its employment and personnel practices, and to policies and practices that will assure that there shall be no discrimination against any person on the grounds of race, color, age, religion, sex, national origin or handicap. Affirmative Action will be taken in the recruitment, hiring and promotion of minorities, females, the handicapped and veterans.

To ensure effective implementation of and compliance with the University's policies and its commitment under pertinent executive orders and laws, positive affirmative action is being undertaken concerning equal employment opportunity. Such action includes:

A. Recruitment of minority, female, veteran and handicapped personnel in all job categories with special emphasis being directed toward those categories where deficiencies exist;

B. Utilization of existing (federal or other) work incentive and training programs, where applicable, to qualify persons for entry-level positions;

C. Appointment of representatives to develop plans for the recruitment, training and promotion of minority, female, veteran and handicapped persons; and

D. Continuation and development of programs and opportunities for minority residents in the University community aimed at better understanding and relations.

II. Policy

Washington University is committed to a policy of equal employment opportunity without regard to race, color, religion, sex, national origin, veteran status or handicap. Decisions on employment are made on the basis of the qualifications of the individual for the position being filled. Decisions on promotion are likewise made on the basis of the qualifications of the individual as they relate to the requirements of the position for which he or she is being considered.

All personnel policies — including those on compensation, fringe benefits, transfers, training programs, and the like — are administered without regard to race, color, religion, sex, national origin, veteran status or handicap. These policies apply to all employees in all schools and departments of the University.

The University is also committed to affirmative action to increase the numbers and job levels of qualified members of minority groups of women, of veterans and of the handicapped in those areas in which numbers may be low in relation to the available supply of qualified individuals. To this end, an affirmative action program has been developed and affirmative action officers have been appointed for the Hilltop and Medical campuses.

Chancellor William H. Danforth stated the University policy on affirmative action in a letter to members of the faculty, administrative officers and staff dated Dec. 13, 1971, as follows:

"Other interests and problems may demand our attention, but the affirmative action program must be kept on the front burner by the administration and by every division, department and school. Affirmative action should come to mind every time we seek a new person. What is right to do is what we must do because national and institutional goals coincide with federal regulations. Without considerable effort, however, all our good intentions will amount to nothing."

III. Annual review

The affirmative action program is reviewed each year. The review covers a 12-month period beginning on Oct. 1 and ending on Sept. 30. Deans, department heads, directors and supervisory personnel participate in an annual review of school and departmental employment practices, including salary analysis.

The purpose of the review is two-fold: to assess the progress that Washington University is making in providing equal employment opportunity; and to take corrective action, if it is appropriate.

The 1987-88 annual review was completed in December 1988. The table above profiles the Washington University employment community by Equal Employment Opportunity Commission (EEOC) job category.

Personnel News

Personnel News appears monthly in the Record and is prepared by Gloria W. White, vice chancellor for personnel and affirmative action, and other members of the Personnel Office. Personnel News is designed to keep Washington University employees and their families informed of the benefits and opportunities available at the University.

TIAA investment performance surpasses industry average

Teachers Insurance and Annuity Association recently announced that it posted strong results and asset growth for 1988. TIAA's net rate of investment return before capital gains and losses was 10.70 percent, surpassing the estimated life insurance industry average return of 9.37 percent, according to the American Council of Life Insurance. With net capital gains included, TIAA's total net return increased to 11.12 percent for 1988.

According to J. Daniel Lee Jr., executive vice president and head of TIAA Investments, "This represents the 40th consecutive year that TIAA's investment performance has surpassed that of the industry average. TIAA's 1988 results also represent the eighth consecutive year that TIAA performance has exceeded 10 percent, well in excess of the inflation rate."

At the end of 1988, TIAA assets totaled \$38.6 billion, compared to \$33.2 billion a year earlier, reflecting investment performance and premium income. New 1988 investments amounted to a record \$7.5 billion, the equivalent of about \$30 million for each working day of the year. New

securities investments accounted for approximately \$4 billion — or 52.9 percent — of new acquisitions last year, including direct placements and long-term publicly traded bonds. The remaining \$3.5 billion — or 46.8 percent — was invested in commercial mortgages and real estate acquisitions.

TIAA direct placement loans to business and industry help to finance a wide range of borrowers' needs. These include equipment purchases, plant expansion, working capital, acquisitions, leverage buyouts, and other general corporate purposes. TIAA direct placement financings are to companies in various industries, including transportation, healthcare, communications and broadcasting, natural resources, utilities and manufacturing.

TIAA commercial mortgage and real estate investments finance many types of projects across the United States — urban and suburban office developments, regional and local shopping centers, luxury hotels, industrial buildings, research and development projects, urban mixed-use complexes, and high-quality multi-family rental projects.

CREF stock, money markets post strong returns for 1988

College Retirement Equities Fund, the variable annuity component of the TIAA-CREF pension system for higher education, recently reported strong investment returns for 1988. Results include both the CREF Stock Account and the new CREF Money Market Account introduced in April 1988.

For the CREF Stock Account the net rate of total return for calendar year 1988 after deduction of all investment, administrative and distribution expenses was 17.46 percent, compared to 16.72 percent for the unmanaged S&P 500 Stock Index, a widely used measure of stock market performance. Fund officials noted that CREF's average annual compound rate of total return for the five years ending Dec. 31, 1988, was 15.88 percent, compared to 15.23 percent for the S&P 500 Index.

The past performance is not necessarily indicative of future rates of return for the CREF Stock Account. These returns and the value of the principal invested in the CREF Stock Account will fluctuate, and the units owned in the Stock Account may be worth more or less than their original price.

CREF Stock Account total assets, which are invested in some 2,500 U.S. and foreign companies, amounted to \$30.8 billion at year-end 1988, up from \$27.5 billion at year-end 1987, reflecting investment performance and premium income. Nearly 90 percent of the CREF stock portfolio is invested in stocks of U.S. corporations, including a component indexed to the S&P 500 stocks, as well as a wide range of non-S&P 500 stocks. The remaining portion is invested in stocks of 22 foreign countries, making CREF one of the largest U.S.-based equity investors in the international arena.

Executive Vice President James S. Martin, head of CREF Investment, pointed to "excellent returns around the world" as a major factor for the CREF Stock Account's favorable 1988 performance. "Markets everywhere shook off the effects of October 1987 to rebound nicely in 1988. Among the more impressive markets were the Asian ones, which were particularly rewarding for us."

Martin stressed that since the market bottomed out in the mid-70s, "common stock returns have been well above the historical average. This holds true today, in spite of what happened on Black Monday and the perception many people may have because of that day."

CREF's Money Market Account, introduced in April 1988, had year-end total assets of \$909 million, which have since surpassed \$1 billion. Investment performance information for the seven days ending Dec. 27, 1988, was as follows:

For the seven days ending Dec. 27, 1988	Donoghue's Money Fund Averages (TM)	CREF Money Market Account
Net Annualized current yield	8.18%	8.82%
Net annualized effective yield	8.52%	9.22%
Average maturity	32 days	21 days

For the most recent seven-day period ending March 7, 1989, net annualized current yield for the CREF Money Market Account after deduction of all investment, administrative and distribution expenses was 9.21 percent, while net annualized effective yield was 9.64 percent. Average maturity was 27 days.

For that same period ending March 7, 1989, the net current annualized yield for Donoghue's Money Fund Averages was 8.75 percent, while net annualized effective yield was 9.13 percent. Average maturity was 31 days.

The Donoghue's Money Fund Averages figures shown above are compiled from money market funds investing in taxable securities. Yields are net of management fees and expenses. The past performance shown here is not indicative of future yields from the CREF Money Market Account. These yields will fluctuate. The corresponding yields for CREF Supplemental Retirement Annuities (SRAs) would be reduced by the 0.5 percent deduction from SRA premiums.

Since its inception, CREF Money Market Account yields quickly caught up with those of the Donoghue's Money Fund Averages, and have been consistently ahead of them by a margin of 12 to 90 basis points for the 46 weeks ending March 7, 1989.

CALENDAR

March 30-April 8

LECTURES

Thursday, March 30

4 p.m. Assembly Series Lecture, "The United States, Germany and the Soviet Union: A Triangular Relationship," Marion Grafin Donhoff, publisher, German weekly newspaper Die Zeit. Brown Hall Lounge. For more info., call 889-5285.

4 p.m. Dept. of Chemistry Seminar, "The Primary Events of Photosynthesis as Probed by X-rays, Electric Fields and Magnetic Fields," James R. Norris, prof., Dept. of Chemistry, U. of Chicago, and Chemistry Div., Argonne National Lab. 311 McMillen.

4 p.m. Dept. of Pathology Special Seminar, "Role of the Polyol Pathway in Changes in the Endoneurial Microenvironment Responsible for Galactose Neuropathy," Henry C. Powell, Div. of Neuropathology and Electron Microscopy, U. of California, San Diego. 3rd floor Aud., Children's Hospital.

4 p.m. Dept. of Russian Lecture, "Misunderstanding Bakhtin," Vadim Liapunov, assoc. prof. of Russian, Dept. of Slavic Languages and Literatures, Indiana U. 113 Busch.

Friday, March 31

Noon. Dept. of Cell Biology and Physiology Seminar, "Neural Cell Lineage Studies With a Recombinant Retrovirus," Joshua R. Sanes, WU assoc. prof. of neurobiology. 4914 S. Building.

4 p.m. Dept. of Music Lecture, "Music, Ritual, Art and Politics at the Royal Abbey of Saint-Denis in the 12th- and 13th-centuries," Anne Walters Robertson, asst. prof. of music, U. of Chicago. 8 Blewett B. For more info., call 889-5581.

Monday, April 3

4 p.m. Immunology Research Seminar, "Do the Ig-Related Genes 14.1 and 16.1 Encode Surrogate Ig Light Chains?" Greg Hollis, senior research specialist, Monsanto Co. 3rd floor Aud., Children's Hospital.

4 p.m. Dept. of Biology Seminar, "Development of Marine Biological Stations: Influence on American Biology," Keith Benson, U. of Washington. 322 Rebstock.

4 p.m. Special Neuroscience Seminar, "Excitatory Amino Acid Receptors in Hippocampal Neurons," Oleg Krishtal, Bogomoletz Institute of Physiology, Kiev, Russia. 928 McDonnell.

4 p.m. Dept. of Psychology Colloquium, "The Role of Psychological Stress in Insulin Dependent Diabetes Mellitus," Daniel J. Cox, Depts. of Behavioral Medicine, Psychiatry, and Internal Medicine, U. of Virginia Health Sciences Center, Charlottesville, Va. 102 Eads.

8 p.m. School of Architecture Monday Night Lecture Series, "Work in Progress," Thom Mayne, architect, Morphosis Inc., Santa Monica, Calif. Steinberg Hall Aud. For more info., call 889-4523.

Tuesday, April 4

11 a.m. Assembly Series Adele Chomeau Starbird Lecture, "Coping With Choice: The Dilemmas Ahead," Caroline Bird, author, *The Good Years: Your Life in the Twenty-First Century*. Graham Chapel. For more info., call 889-5285.

12:10 p.m. Gallery of Art Noon Gallery Talk, "Frames of Dewing Paintings," Joyce Schiller, senior lecturer, St. Louis Art Museum. Steinberg Hall Aud. For more info., call 889-4523.

4 p.m. Dept. of History, Jewish and Near Eastern Studies and the Center for the History of Freedom Lecture, "The Jewish Experience in Poland: From the Earliest Records to the 18th Century," Bozena Chylinska, visiting Fulbright scholar from Poland at U. of California, Berkeley. Hurst Lounge, Duncker.

Wednesday, April 5

11 a.m. Martin Luther King Jr. Symposium Keynote Lecture, "From Martin and Malcolm to Realizing the Afro-American Self," Na'im Akbar, clinical psychologist, Florida State U. Part of the Assembly Series. Graham Chapel. For more info., call 889-5285.

Noon. WU Medical Center Hunger Project Lecture, "Pain and Progress: What You Can Do About Hunger in St. Louis," Sara Barwinski, Lutheran Family and Children's Services. Cori Aud.

1 p.m. Neuroscience Luncheon Seminar, "Intrinsic and Extrinsic Influences on GABA Neurons," Allan Tobin, Dept. of Biology, U. of California, Los Angeles. 928 McDonnell.

4 p.m. Dept. of Biology Seminar, "Genetic and Molecular Analysis of the Maize Anaerobic Response," Marty Sachs, WU asst. prof. of biology. 322 Rebstock.

7:30 p.m. School of Fine Arts Lecture, Phyllis Plattner, Wallace H. Smith visiting lecturer. Steinberg Hall Aud. For more info., call 889-4523.

4 p.m. Dept. of Chemistry Seminar, "Trends in Data Acquisition Instrumentation: 25 Years of

Commercial Perspective," George Blonar, Lecroy Corp. 311 McMillen.

Thursday, April 6

Noon. Respiratory and Critical Care Div. Special Lecture, "Thrombospondin: A Secreted Cell Surface-associated Protein That May Facilitate Cell Cycle Progression," Paul Bornstein, Dept. of Biochemistry, U. of Washington, Seattle. Steinberg Amphitheater, Jewish Hospital at Washington University Medical Center.

1:10 p.m. George Warren Brown School of Social Work Spring Lecture Series, "Long Term Care for the Elderly: A View From Washington, D.C.," Joel Leon, senior gerontologist, National Center for Health Services, Rockville, Md. Brown Hall Lounge. For more info., call 889-6606.

4 p.m. Assembly Series Lecture, "What Do Henry Ford, Pope John XXIII and Elvis Presley Have in Common; or, the Struggle for Creative Identity in the Age of Sleaze," Donald Erb, composer-in-residence, St. Louis Symphony. Also sponsored by the Dept. of Music and Comparative Literature. Women's Bldg. Lounge. For more info., call 889-5285.

4 p.m. Divisional-Evolutionary and Population Biology Program Lecture, "The Sociogenetics of Honey Bees," Robert E. Page Jr., Dept. of Entomology, Ohio State U. 322 Rebstock.

4 p.m. Dept. of Pathology Special Seminar, "The Molecular Biology of Candida Pathogenesis: Switching and Strain Relatedness," David R. Soll, Dept. of Biology, U. of Iowa. 3rd floor Aud., Children's Hospital.

4 p.m. Dept. of Political Science Public Affairs Thursday Series, "Homelessness in America," Alice K. Johnson, doctoral candidate, George Warren Brown School of Social Work. 200 Eliot. For more info., call 889-5810.

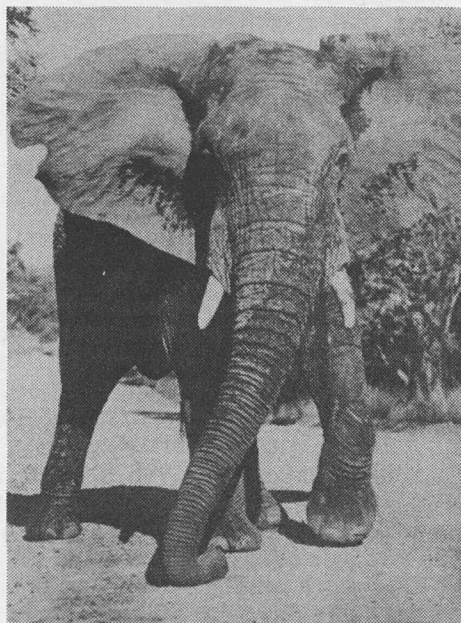
4:10 p.m. Dept. of Philosophy Colloquium, "Desire, Belief and Grunbaum's Freud," Richard Wollheim, WU Lewin Distinguished Visiting Professor and Mills prof. of intellectual and moral philosophy, U. of California, Berkeley. Hurst Lounge, Duncker Hall.

Friday, April 7

9:15 a.m. Dept. of Pediatrics Second Ben Abelson Memorial Lecture, "Hageman Factor in 1989," Oscar D. Ratnoff, prof. of medicine, Case Western Reserve U. Clopton Amphitheater, 4950 Audubon Ave.

Noon. Dept. of Cell Biology and Physiology Seminar, "Channels Formed by Toxins: Their Possible Role in Protein Translocation," Alan Finkelstein, Albert Einstein College of Medicine. 4914 S. Bldg.

6 and 8:30 p.m. WU Association Travel Lecture Series, "Around the World — The First 50 Years," Thayer Soule, travel lecturer. Graham Chapel. For ticket info., call 889-5122.



Thayer Soule celebrates 50 years as a travel lecturer with a retrospective trip across five continents that spans five decades. Soule will present his retrospective during the WU Association Travel Lecture Series on April 7.

8:30 p.m. Hillel Foundation Lecture, "Jewish Unity," Rabbi Irvin Kula, director of the Division of Jewish Unity of the Center for Learning and Leadership (CLAL), New York City. Hillel House, 6300 Forsyth Blvd. Lecture free but dinner at 6:30 p.m. is \$5 for members and \$7.50 for non-members. For info., call 726-6177.

Saturday, April 8

9 a.m. Neural Sciences Seminar, "Hippocampus: Historical and Clinical Observations," John Morris, WU asst. prof. of neurology. Cori Aud.

3 p.m. WU Asian Art Society Lecture, "Recent Discoveries in China," Jean James, U. of Iowa. For members only; reservations limited to 50 people. 710 S. Hanley Road. To make reservations, call Debra Jones at 889-5156.

PERFORMANCES

Friday, March 31

8 p.m. Performing Arts Dept. Presents Shakespeare's "A Midsummer Night's Dream." (Also April 1, 7 and 8, same time, and April 2 and 9 at 2 p.m.) Edison Theatre. Tickets: general public \$5; \$4 for senior citizens, students and WU faculty and staff. For more info., call 889-6543.

EXHIBITIONS

"Washington University Permanent Collection." Through June 30. Gallery of Art, Steinberg Hall, lower gallery. 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends. For more info., call 889-4523.

"MBM: Urban Blocks," urban projects by the Spanish architectural firm of Bohigas, Martorell and Mackey. Through March 31. School of Architecture, main hall of Givens. 9 a.m.-5 p.m. Mon.-Sat. For more info., call 889-6265.

"Read It Again!" An Exhibit of Books From the Children's Literature Collection," donated by Henrietta Maizner Hochschild. Through April 20. Olin Library, Special Collections (fifth floor). 8:30 a.m.-5 p.m. weekdays. For more info., call 889-5495.

"Polish Print Exhibit." April 2-23. Bixby Gallery. 10 a.m.-4 p.m. weekdays; 1-5 p.m. weekends. For more info., call 889-6500.

"Work of Santiago Calatrava," drawings, models and photographs by the Swiss-based architect and engineer. April 7-24. Givens Hall. 9 a.m.-5 p.m. weekdays. For more info., call 889-6200.

"M.F.A. Exhibition, Part I." April 7-16. Gallery of Art, Steinberg Hall, upper gallery. 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends. For more info., call 889-4523.

MUSIC

Saturday, April 1

7 p.m. Dept. of Music and Sangeetha Present an Indian Flute Concert featuring V. Ramani, flutist, and N. Muralidharan, violinist. Simon Hall Aud. Admission: \$12 for adults; \$6 for students other than WU. WU faculty, staff, students and Sangeetha members free. For more info., call 889-5581.

8 p.m. Dept. of Music and the Endangered Arts Foundation Present the Tallis Scholars Choral Concert, directed by Peter Phillips. Graham Chapel. General admission: \$10.50. Tickets are available through Ticketmaster, 652-5000, and Dept. of Music, 889-5581. For more info., call 889-5581.

FILMS

Thursday, March 30

7 and 9 p.m. Filmboard Series, "Viridiana." \$2. Brown Hall.

Friday, March 31

7 and 9:30 p.m. Filmboard Series, "Outland." \$2. Brown Hall. (Also Sat., April 1, same times, and Sun., April 2, at 7 p.m., Brown.)

Midnight. Filmboard Series, "Conan the Barbarian." \$2. Brown Hall. (Also Sat., April 1, same time, and Sun., April 2, at 9:30 p.m., Brown.) On Fri. and Sat., both the 9:30 p.m. and midnight films can be seen for a double feature price of \$3; both Sun. films can be seen for \$3.

Monday, April 3

7 and 9 p.m. Filmboard Series, "Battle of the Sexes." \$2. Brown Hall. (Also Tues., April 4, same times, Brown.)

Tuesday, April 4

7 p.m. Dept. of Romance Languages and Literatures Spanish Film Series, "Mama cumple cien anos." Free. 210 Ridgley.

Wednesday, April 5

7, 8:30 and 10 p.m. Filmboard Series, "Black Girl." \$2. Brown Hall. (Also Thurs., April 6, same times, Brown.)

7 p.m. Dept. of Romance Languages and Literatures French Film Series, "Na Nuit Chez Maud." Free. 210 Ridgley.

Friday, April 7

7 and 9:30 p.m. Filmboard Series, "Bull Durham." \$2. Brown Hall. (Also Sat., April 8, same times, and Sun., April 9, at 7 p.m., Brown.)

Midnight. Filmboard Series, "Bananas." \$2. Brown Hall. (Also Sat., April 8, same time, and Sun., April 9, at 9:30 p.m., Brown.) On Fri. and Sat., both the 9:30 p.m. and midnight films can

be seen for a double feature price of \$3; both Sun. films can be seen for \$3.

SPORTS

Friday, March 31

2 p.m. Baseball. WU vs. Carroll College. Kelly Field.

3 p.m. Men's and Women's Outdoor Track and Field. WU Twilight Open. Francis Field.

3:30 p.m. Women's Tennis. WU vs. Emory U. Tao Tennis Center.

Saturday, April 1

9 a.m. Women's Tennis. WU vs. Millsaps College. Tao Tennis Center.

1 p.m. Baseball. WU vs. Millikin U. (double-header). Kelly Field.

9:30 a.m. Third Annual WU Crew Classic Regatta. Creve Coeur Lake. A total of 19 races will be contested until 4 p.m. For more info., call 367-3086.

Tuesday, April 4

3:30 p.m. Women's Tennis. WU vs. U. of Missouri-St. Louis. Tao Tennis Center.

Wednesday, April 5

3 p.m. Baseball. WU vs. St. Louis U. Kelly Field.

3:30 p.m. Men's Tennis. WU vs. Principia College. Tao Tennis Center.

Friday, April 7

3 p.m. Men's Tennis. WU vs. U. of Chicago. Tao Tennis Center.

MISCELLANY

Thursday, March 30

10 p.m. Thurtene Night at Schmiezing's Millbrook Cafe, 375 N. Big Bend Blvd. For more info., call 862-1389.

Friday, March 31

11 a.m.-4 p.m. Chimes "Savor St. Louis," a food festival featuring specialties of many area restaurants. Co-sponsored by Coca-Cola Co. Proceeds will be donated to the Women's Self Help Center in St. Louis. On field between Simon Hall and Mudd Law Bldg.

6-10 p.m. Thurtene Racquetball/Squash Tournament. Open to students, faculty and staff. Athletic Complex. (Also Sat., April 1, 10 a.m.-6 p.m., Athletic Complex.) Cost: \$7 per entry; \$12 per doubles team. Each participant will receive a T-shirt. To register or for more info., call 725-4740 or 862-1389.

Sunday, April 2

1-3 p.m. Egg Drop Competition. Co-sponsored by the Engineers' Council and Student Union as part of Engineers' Weekend. Shepley Hall. For more info., call 862-4477.

Tuesday, April 4

6 p.m. Undergraduate Business School Council Presents a Master's Business Administration Information Seminar. Participants include Lanna K. Skadden, dir. of undergraduate advising, WU School of Business. 103 Simon Hall. For more info., call 997-7791.

Thursday, April 6

9 p.m. Thurtene Mug Night at the Rat. Umrathskeller, Umrath Hall. For more info., call 725-4740 or 862-1389.

Friday, April 7

Noon. Women's Club Mini-Luncheon and Program, "Doctor on the Ark," William J. Boever, senior veterinarian and dir. of research, St. Louis Zoo. Open to members and their guests. Cost: \$3 for members; \$4 for guests. Women's Bldg. (Free parking and shuttle service will be available from the northeast corner of the main campus parking lot near Millbrook and Skinker.) For reservations or more info., call 721-4829 or 991-0885.

Calendar Deadline

The deadline to submit items for April 20-29 calendar of the Washington University Record is April 7. Items must be typed and state time, date, place, nature of event, sponsor and admission cost. Incomplete items will not be printed. If available, include speaker's name and identification and the title of the event; also include your name and telephone number. Send items to King McElroy, calendar editor, Box 1070, or by electronic mail to p72245KM at WUVMC.